HAMATEUR CHATTER

The Milwaukee Radio Amateurs Club

March 2014 Volume 22, Issue 3

One of the World's Oldest Continuously Active Radio Amateur Clubs—since 1917

Presidents' Letter

I want to thank everyone who attended our Potluck dinner meeting last month. Al KC9IJJ again did a great job with the food. At this meeting we presented Warren K9IZV with a MRAC life member certificate. Warren has devoted his life to amateur radio in southeastern Wisconsin. It was my pleasure to be able to present the certificate to him.

MRAC has ventured out into social media. After the swapfest was over we launch a Facebook page. We need five more likes and we can have a vanity URL on Facebook. So help promote the club and like our page. We plan on posting pictures from our history a and upcoming events. When 10 meters has been open I have posted the openings.

Dan N9ASA and I have applied for and received a demo of the new Yaesu Fusion digital repeater. Until it can be installed at its proper location, we will install it at the MRAC repeater. This repeater operates in several modes. It will acted like our current repeater or it can be fully digital. They also have a mode where you can talk in digital and come out analog. We need to have this up and running for AES Superfest on April 5th. Starting out the repeater will not be connected to our repeater controller. I will work on that once we have a better understanding on how it works.

MRAC has been asked if we will give a presentation at this year's AES Superfest.

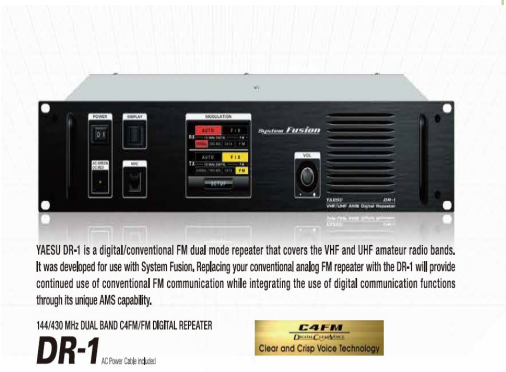
Dave WB9BWP will talk about Ham Radio history in Milwaukee. This is a great opportunity for the club to get this information out to the public. I hope to be able to record this presentation and put it on YouTube.

This month's meeting topic will be Antenna Modeling by Jeff K9VS. He will explain how the software can help you design antennas.

Dave KA9WXN

FLASH: New repeater hardware installed.

See page 4 for details.


System Fusion
YAESU DR-1 is a digital/conventional FM dual mode repeater that covers the VHF and UHF amateur radio bands. It was developed for use with System Fusion. Replacing your conventional analog FM repeater with the DR-1 will provide continued use of conventional FM communication while integrating the use of digital communication functions through its unique AMS capability.
144/430 MHz DUAL BAND C4FM/FM DIGITAL REPEATER
DR-1
AC Power Cable Included
C4FM
Clear and Crisp Voice Technology

MRAC Officers:

Terms Expiring in 2014

- President – Dave, KA9WXN
- V-President– Dan, N9ASA
- Secretary – Mike, KC9CMT
- Treasurer – Joe, N9UX
- Director – Vacant

Terms Expiring in 2015

- Director – Al, KC9IJJ
- Director – Hal , KB9OZN

The Club Phone Number is: (414) 332-MRAC or

(414) 332- 6 7 2 2

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www.w9rh.org

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Combined Meeting Minutes

Board of Director's meeting was called to order at 6:42 pm by club president Dave, KA9WXN, present for the impromptu meeting were: Al, KC9IJJ, Michael, KC9CMT, Dave, KA9WXN, and Joe, N9UX. The Board meeting ended at 6:55 pm. The membership meeting will follow in 5 minutes or so.

At this meeting of the MRAC membership, a short Board of Director's meeting was called to order proceeding the regular meeting. The board of director's did not meet as usual on Monday January 27th due to the extreme cold snap that was inundating Southeastern Wisconsin. Dave, Ka9wxn discussed the hamfest ticket situation with Al, KC9IJJ would was to have these printed up. Dave will be delivering the tickets to the QTH of the club secretary on or before Saturday, February 1st. Joe, N9UX presented the MRAC budget for 2014 to the Board for review. The budget now shows a surplus of $37 projected for 2014.

The repeater has a DSL modem installed that is slower than broadband but is convenient for the club to keep. Changing over to Broadband would present technical and logistical challenges. **The club would like more than one repeater control operator.** This was misreported in the October Board of Director minutes as the MRAC needing a second repeater trustee. As per FCC article 97, a club can only have one trustee, this sentence should have said that the club was looking for a few more repeater control operators. Dave, KA9WXN has been working on updating the club website. He has taken over this duty form Mark, AB9CD. WXN

Dave, KA9WXN called the membership meeting to order at 7 pm. The mic was passed for introductions and a sign-up sheet was circulated. A correction was announced regarding the October Board of Director's minutes. Dave, corrected the error before the membership. The club swapfest is February 15th, Saturday at 8 am. Dave is looking for people to work the swapfest as volunteers. The membership meeting was sparsely attended this month. The FM Simplex contest is coming up on February 9th, a Sunday afternoon. Forms for submission of contacts can be downloaded from the MRAC website. There is a handout on the front table regarding the contest. Joe, N9UX gave a presentation to the membership regarding the 2014 budget. Field day food expenses and insurance were $200 in 2013. Our state incorporation papers were sent in and the fee paid by Joe; the club is a Not-for-profit corporation. Jerry, K9FI asked about a club roster that can be given out to the membership. The club has debated the formatting of this article in the past, so it is just a matter of deciding the design issue, then the club secretary can format and print out rosters for the membership.

Tom, W9TJP stated that the AES superfest will go on this year at the end of March, first of April. Dave, asked for people to work on an election committee. The club will be looking for the minimum of a new treasurer to be picked from the Board of director's. There are four positions up for election during our April election meeting.

The club secretary will be sending out reminders of this important event in February and March. Mark, AB9CD brought up the problem of storage space at the Pioneer Village site. The MRAC has not had a presence there for three years, yet, storage space is still being used at the site. To maintain the storage space the club should send in a donation has it has in prior years.

Swapfest: Joe, N9UX gave the secretary the hamfest materials that came to the club post office box. MRAC will be manning tables again this year. Table orders are starting to come in, with two weeks to go before the event. The facility will be plowed and salted prior to the setup period on Friday night. Gary Sorensen the section manager from ARRL will be at our Hamfest manning the ARRL table. Update Hamfest MRAC phone number to reflect the clubs new number.

Preliminary discussion: The meeting on February 28th will be a recap on the FM simplex contest, and a report on the success of the MRAC/MAARS swapfest. The February simplex contest will be held on February 9th. February 15th is the MRAC/MAARS inter-club Hamfest.

Tonight's Program:

Tonight's program is a discussion by Dave, WB9BWP on the Juno satellite flyby of earth on its way to Jupiter. In October the NASA/JPL Juno satellite heading toward Jupiter made its closest swing past Earth in it's trajectory. Ham operators were organized to send Morse code signals to the satellite as it passed. Dave had a video presentation from NASA as part of his presentation. Thousands of Ham operator's from around the world took part in the Morse code transmissions. They had to synchronize there UTC clocks to accurately coordinate this activity.

The dits and dots were of thirty second duration of Key Down. This all took place on the ten meter band.
Future meeting topics: An oscilloscope intro course, How to work and program a HT radio.

Next month, new MRAC club history DVD's will be coming out. Dave is doing all the historical work on his own.

Pancho is still looking for someone to help out during the club nets on Friday evening. We have a 10 meter and 2 meter net. At 8 and 9 pm respectively.

There will be a food & coffee gathering at Denny's with Jerry and Poncho after the club meeting.

Dave accepted motions to adjourn the business meeting at 7:57 pm. Motion made by Al, KC9IIJ seconded by Joe, K9UX. Meeting adjourned at 7:58 pm. The room was then policed of trash, chair put away and area returned to an acceptable condition as found before the meeting commenced.

Severe Storms and Supercells

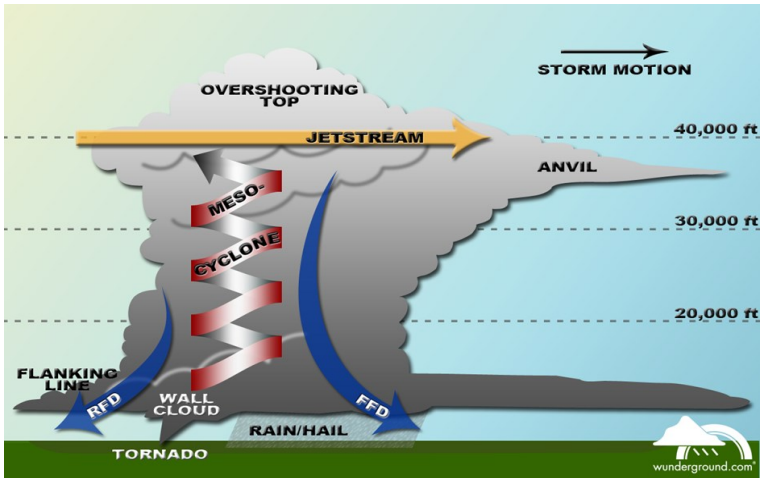
Figure 1. A supercell thunderstorm in Oklahoma. Image courtesy NSSL/ NOAA.

The National Weather Service defines a severe thunderstorm as a thunderstorm that is producing:

- hail that is at least quarter size (1 inch diameter or larger)
- and/or wind gusts 58 mph or greater and/or a tornado

If a storm that meets these criteria are possible for an area, the Storm Prediction Center will issue a severe thunderstorm watch or a tornado watch. If a storm with these criteria is imminent, your local Weather Service office will issue a severe thunderstorm warning or a tornado warning.

Lightning and heavy rainfall are dangerous elements of a thunderstorm, but they are not in the severe thunderstorm criteria for a few reasons. If lightning were a prerequisite, all thunderstorms would be severe. Also, flash flooding is handled by a separate set of watches and warnings which are issued by your local Weather Service office.



Supercell Thunderstorms

A supercell is a highly organized thunderstorm with some components that set it apart from other "garden variety" thunderstorms. Supercells have the capability to produce tornadoes, damaging hail, and strong downdrafts (which translate into straight-line winds at the surface). All tornadoes are spawned from a parent supercell, but not all supercells produce tornadoes.

In addition to the standard necessary ingredients for a thunderstorm (instability, moisture, source of lift), supercells require strong "veering" of the winds, which means the winds are turning clockwise with height. So, for example, the surface wind could be out of the southeast, wind at the mid-levels will be out of the southwest, and winds at the upper levels will be out of the northwest. The turning of the winds with height helps the thunderstorm develop its most essential component: the mesocyclone.

A mesocyclone (or "meso" for short) is formed when a thunderstorm updraft meets veering winds. As the air rises in the thunderstorm, the winds will begin to twist the updraft until the whole column of air is rotating. Although each storm is different, the meso is usually found in the right rear flank of the supercell, and is typically 2-6 miles wide. Technically, the mesocyclone is defined as the radar signature that appears if one is present (a yellow circle on Doppler velocity products), but you can often see the rotation with your bare eyes.

While each storm is different, most supercells usually have the following parts:

- Mesocyclone - Strong, rotating updraft
- Forward-Flank Downdraft - Cold, dense air descending through the front of the storm
- Rear-Flank Downdraft - Cold, dense air descending through the back of the storm
- Flanking Line - A line of towering cumulonimbus connected to and extending outward from the rear of the supercell
- Rain Shaft - The area in which rain and/or hail falls to the ground
- Overshooting Top - The area of clouds that "punch through" the jet stream into the lower stratosphere (occurs when updraft is particularly strong)

Anvil - The flat layer of high cirrus clouds at the top of the storm that is shaped like an anvil, formed as the jet stream shears the updraft clouds away from the core of the storm

Types of Supercells

There are three types of supercells: low precipitation, classic, and high precipitation. The definitions of these types are exactly what you would expect, but they have some different consequences.

Low Precipitation (LP) Supercells

LP supercells usually form in dry regions, where there might be just enough moisture to form the storm, but not enough moisture to rain very hard. You can usually find the updraft on the rear flank (back) of the storm, and the meso will be more defined and obvious. On radar, an LP will not show up as a hook echo because there's not enough precipitation within the storm to provide the reflectivity. These storms might not look that strong, but they can pack a punch. LP supercells often produce tornadoes and large hail.

Classic Supercells

The classic, textbook supercell looks much like the figure above. The storm will have a flat updraft base and potentially a wall cloud underneath the updraft. The precipitation (rain and hail) will fall adjacent to the updraft, usually underneath the forward flank downdraft (FFD). If the conditions are right, a tornado will form underneath the wall cloud.

High Precipitation (HP) Supercells

HP supercells usually have the updraft on the forward flank (front) of the storm, and the precipitation surrounds the updraft, from the FFD to the rear flank downdraft (RFD). The wall cloud and potential tornado will be "rain-wrapped" (within the "bear's cage") and difficult to observe. Rain and hail is extreme in these storms, and flash flooding usually occurs. It's possible that HP supercells are the most dangerous because of their ability to hide the warning signs of an approaching tornado.

New Equipment being installed at Repeater Site

On March 16, 2014, the Milwaukee Area Digital Operators Group (MADOG) and the Milwaukee Radio Amateurs' Club (MRAC) partnered together to demo the Yaesu "System Fusion" repeater. "System Fusion" is Yaesu' s version of digital communications, offering repeater owners the ability to provide a repeater that can be used by both analog and digital users separately. It has the ability to automatically switch modes depending on the type of signal received. Additionally, there is another repeater mode available in which digital users can talk into the repeater and transmit as analog for all users to hear.

MADOG and MRAC have temporally replaced the 145.390 W9RH repeater with the "System Fusion" repeater. Testing of the system will continue over the next several weeks leading up to AES Superfest on April 5th, 2014. Analog users will hear what sounds like static. This noise is the digital signal being transmitted by the repeater. We recommend users program a tone squelch of 127.3Hz into their radios. Over the next several weeks, we also plan on incorporating the current MRAC controller.

We need your help testing the system. We are required to submit reports at the 1-week, 1-month, and 3-month intervals after operation is started.

Please provide us with your feedback about the repeater's operation to ka9wxn@gmail.com. Is the analog range the same as before? How is the audio quality? Have you noticed any problems with the repeater?

We welcome your help in testing this new repeater system, and thank you in advance for your participation and patience during the testing period.

Dave KA9WXN MRAC President

DR-1 Fusion Repeater Features:

·Modulation Modes: Conventional FM, 12.5 kHz C4FM Digital (V/D Mode, VFR Mode, DFR Mode) *
·AMS (Automatic Mode Select) function automatically recognizes the signal as C4FM digital or conventional FM, and then the DR-1 repeater retransmits the signal using the preset communications mode.
·3.5-inch Full Color Touch Panel Operation
·Extremely reliable, high RF Output Power: 50W/20W/10W
·Emergency Operation: Supports auto-switched backup battery power operation.
·Front panel microphone connector is provided for use in repeater transmitter testing, and enables use as a base station.
·Built-in large-size monitor speaker with front panel volume control

*System Fusion is not compatible with the D-STAR GMSK digital format.

How people respond to an emergency situation.

Emergency situations can cause extreme amounts of physical and emotional stress. Understanding how to deal with this stress will help to reduce its impact, and can greatly increase your chances of survival.

Your response to an Emergency situation:

The worst thing that you can do is lose your will to survive. Statistics show that 95% of people who die with psychological trauma, do so within the first three days of a traumatic event. How you respond in an emergency situation will determine the outcome of that situation.

Common Reactions to a disasters:

- **ANXIETY**: Anxiety & Panic are both a direct result of fearing what may happen. Once panic sets in, you must quickly realize that you are the one feeding the fire, and then take actions to reduce your anxiety level. Take a deep breath, tell yourself that your thoughts can't hurt you, and start to take make a plan of action. Having a plan is the best way to ease a troubled mind.
- **DEPRESSION**: Depression in a survival situation can be a killer. Once depression sets in, it quickly becomes almost impossible to make rational decisions. You must do everything in your power to keep your mind focused on positive thoughts. Take time to congratulate yourself for even small victories. That may seem a little odd at first, but it's important to keep a positive frame of mind at all times.
- **HYPERACTIVITY**: In the face of danger, some people may become easily agitated. When this happens, the victim can become easily distracted and can take actions that will be detrimental to their survival.
- **ANGER** – Anger is a common response to an emergency situation. In some cases anger can be your friend. It can give you extra strength and alertness when confronting an immediate danger. In other cases, it can cloud your judgment and force you to make irrational decisions.

GUILT – Guilt is a very common emotional response for survivors to feel; in fact, many survivors can actually feel guilty for surviving. Often times a survivor will dwell on what they could have done for others, or they blame themselves for the situation.

COPING STRATEGIES:

- **TRAIN** – People who are prepared, and know what to expect during an emergency situation, are far less likely to fall into the traps listed above. Make sure you train with your equipment so you will feel completely comfortable during a real situation.

Read, Read and then Read some more. Knowledge is the key to survival; knowing what to do when the shit hits the fan will help you keep a level head during even the most stressful of situations.

- **Practice Relaxation Techniques** – Learning how to relax during a stressful situation is crucial to your survival. Deep breathing techniques, Yoga, and other relaxation techniques are valuable skills that you should learn.
- **Learn How to Stay Positive**:

The ability to maintain a positive mental attitude during a survival situation is something that needs to be taking seriously. It's also something that you need to start working on now, before the SHTF.

Making it through a survival scenario often comes down to how well you can control your emotions. Keeping a positive frame of mind, even in the face of an unthinkable threat, will help you process what's happening and will help you respond without giving into fear.

Now I'm not suggesting that you ignore the dangers or take on some delusional view of what's going on. But I am suggesting that you need to keep a level head, regardless of your circumstances. In a survival situation griping about your circumstances or wallowing on your problems will do one thing, **IT WILL GET YOU KILLED!**

In a Survival Situation you need to be able to work on solutions, not wallow in self pity. Every obstacle that you face will likely present a solution – if you have a level head and can look for it. If you spend all your time crying about the problem, the opportunity to survive will pass you by.

The Work Starts Now

The most important thing to remember about mastering your emotions is that it takes time. While it only takes a second for fear and anger to invade your mind, it can take years to really master the ability to tune these emotions out during a stressful situation.
Being able to maintain a positive attitude in a stressful situation takes practice. It's not an easy thing to master, but once you do it will be well worth the effort.

Things to add to your survival bag or kit:

- Add a Small Tablet Device to your bag, especially if you have kids. The distraction can be enough to get their minds of the immediate effects of the disaster. Tablets can also be filled with valuable survival manuals and videos.

If you have kids, you need to consider a dedicated bag for each kid, filled with comfort items. With children, comfort items often become a top priority to ensure their overall mental health during a SHTF scenario.
Carry pictures of family or loved ones in your survival kit
Carry a survival bible

Having away of entertaining yourself can help keep your mind sharp, and your moral up. Playing cards can also be a great addition to your kit.

Will to Survive

If you ask the average person what the most important factors of making it through a survival situation are, you will probably get a wide range of answers. On most survival websites, including this one, you will read a wide variety of articles detailing the importance of things like Water, Shelter, Food and Weapons.
While every one of those things is important, there's one thing that's often overlooked. Not having this one thing has killed more people in a survival situation than any other issue we can talk about, it's probably the single most important aspect of survival.

The Will to Survive

Throughout history man has endured the unthinkable. From explorers being shipwrecked for years in the Antarctic to those who survived the unthinkable conditions in Nazi Germany, the will to survive can often help people live through conditions that most would consider impossible.

Take the story of Ernest Shackleton and the Crew of the Endurance

In 1914, Arctic explorer Ernest Shackleton embarked on a journey to become the first man to cross the Antarctic continent on foot. He placed an ad in his local paper that read:

Men wanted for Hazardous Journey….
Small Wages, Bitter Cold, Long months in Complete Darkness, Constant Danger, Safe Return Doubtful, Honor and Recognition in Case of Success….
Ernest Shackleton

His journey to cross the Arctic would never happen, instead he would embark on one of the most remarkable stories of survival ever told. Shortly after leaving, Shackleton and his crew of 28 men became shipwrecked in one of the harshest environments in the world, the Antarctic Ice.

Frozen and stuck in the Arctic ice for ten months, his ship The Endurance drifted for over 800 miles to the north. The Endurance was eventually crushed by the pressure of the ice, forcing the crew to abandon ship.

Preparing for the Worst

They hauled tens of thousands of pounds of gear, food, scientific equipment and heavy life boats by hand across the Arctic Ice.

After surviving in makeshift shelters for another five months, Shackleton and crew set out on an amazing 100 mile open boat journey to Elephant Island. It was the first time they had been on land in over 16 months, but the story was far from over.

Elephant Island was anything but paradise, in fact it was almost inhabitable. With little food or fresh water, Shackleton realized that there was little hope of surviving for very long. Shackleton and five of his men immediately set sail in a small life boat on a perilous 800 mile journey to South Georgia. For 17 days they navigated their way through storms, rough seas and freezing temperatures, in what many consider to be one of the most remarkable boating adventures of all ti

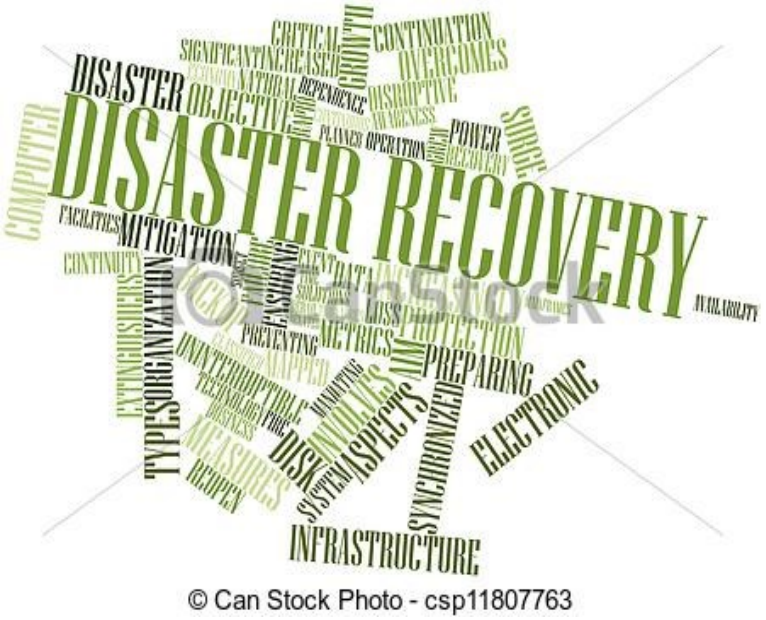
me. They somehow reached South Georgia, but again the adventure was far from over. Suffering from extreme frostbite and fatigue, after completing one of history's most incredible boat journeys, Shackleton would have to hike and climb another 20 miles across deadly crevasses and treacherous mountain tops.

With no real mountain climbing equipment, they trekked for over 36 hours before finally making it to make it to a remote whaling station. Within 3 days of their arrival, they immediately set out again in a borrowed ship to rescue the crew that was still back on Elephant Island.

"Difficulties are just things to overcome, after all."
Ernest Shackleton

It took another four attempts, but through pure will and probably a bit of stubbornness, Shackleton eventually rescued the rest of his men. They all survived on Elephant Island for over 4 1/2 months in shelters made out of the remaining life boats.

The will to survive is a very powerful thing, being able to motivate yourself during a stressful situation is an extremely important aspect of survival.



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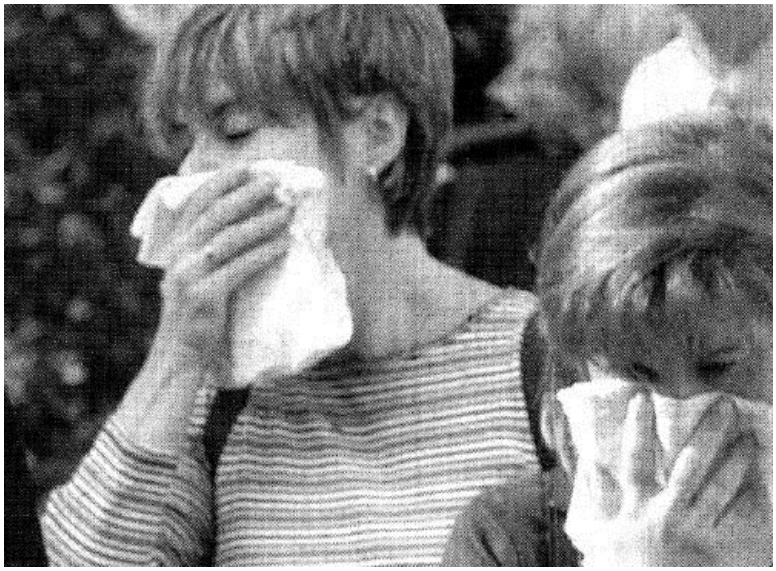


Field Effect Transistors

Although it has brought about a revolution in the design of electronic equipment, the bipolar (PNP/NPN) transistor still has one very undesirable characteristic. The low input impedance associated with its base-emitter junction causes problems in matching impedances between interstage amplifiers.

For years, scientists searched for a solution that would combine the high input impedance of the vacuum tube with the many other advantages of the transistor. The result of this research is the FIELD-EFFECT TRANSISTOR (FET). In contrast to the bipolar transistor, which uses bias current between base and emitter to control conductivity, the FET uses voltage to control an electrostatic field within the transistor. Because the FET is voltage-controlled, much like a vacuum tube, it is sometimes called the "solid-state vacuum tube."

The elements of one type of FET, the junction type (JFET), are compared with the bipolar transistor and the vacuum tube in figure 3-44. As the figure shows, the JFET is a three-element device comparable to the other two. The "gate" element of the JFET corresponds very closely in operation to the base of the transistor and the grid of the vacuum tube. The "source" and "drain" elements of the JFET correspond to the emitter and collector of the transistor and to the cathode and plate of the vacuum tube.

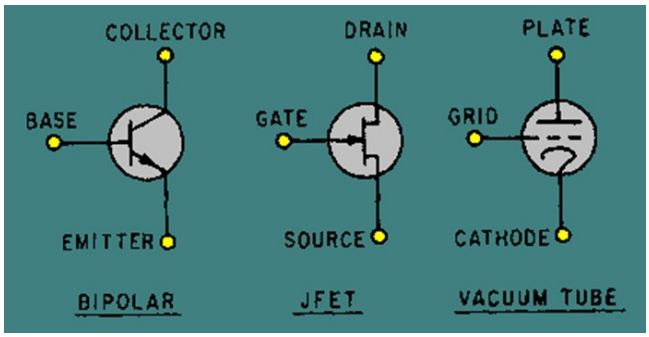


Figure 3-44. - Comparison of JFET, transistor, and vacuum tube symbols.

The construction of a JFET is shown in figure 3-45. A solid bar, made either of N-type or P-type material, forms the main body of the device. Diffused into each side of this bar are two deposits of material of the opposite type from the bar material, which form the "gate." The portion of the bar between the deposits of gate material is of a smaller cross section than the rest of the bar and forms a "channel" connecting the source and the drain. Figure 3-45 shows a bar of N-type material and a gate of P-type material. Because the material in the channel is N-type, the device is called an N-channel JFET.

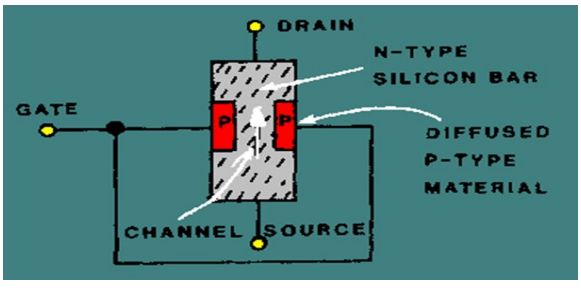


Figure 3-45. - JFET structure.

In a P-channel JFET, the channel is made of P-type material and the gate of N-type material. In figure 3-46, schematic symbols for the two types of JFET are compared with those of the NPN and PNP bipolar transistors. Like the bipolar transistor types, the two types of JFET differ only in the configuration of bias voltages required and in the direction of the arrow within the symbol. Just as it does in transistor symbols, the arrow in a JFET symbol always points towards the N-type material. Thus the symbol of the N-channel JFET shows the arrow pointing toward the drain/source channel, whereas the P-channel symbol shows the arrow pointing away from the drain/source channel toward the gate.

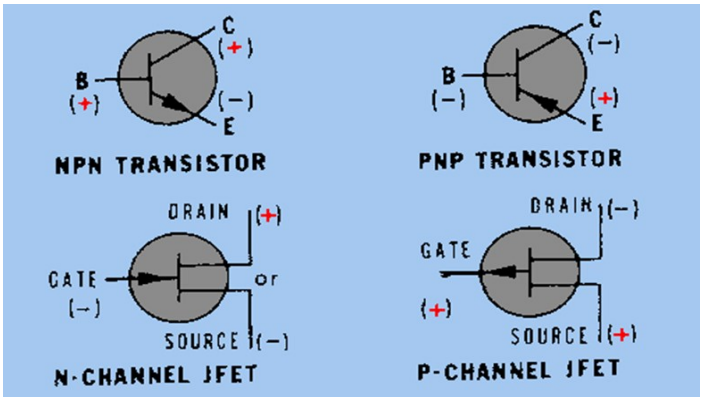


Figure 3-46. - Symbols and bias voltages for transistors and JFET.

The key to FET operation is the effective cross-sectional area of the channel, which can be controlled by variations in the voltage applied to the gate. This is demonstrated in the figures which follow.

Figure 3-47 shows how the JFET operates in a zero gate bias condition. Five volts are applied across the JFET so that current flows through the bar from source to drain, as indicated by the arrow. The gate terminal is tied to ground. This is a zero gate bias condition. In this condition, a typical bar represents a resistance of about 500 ohms. A milliammeter, connected in series with the drain lead and dc power, indicates the amount of current flow. With a drain supply (V_{DD}) of 5 volts, the milliammeter gives a drain current (I_D) reading of 10 milliamperes. The voltage and current subscript letters (V_{DD}, I_D) used for an FET correspond to the elements of the FET just as they do for the elements of transistors.

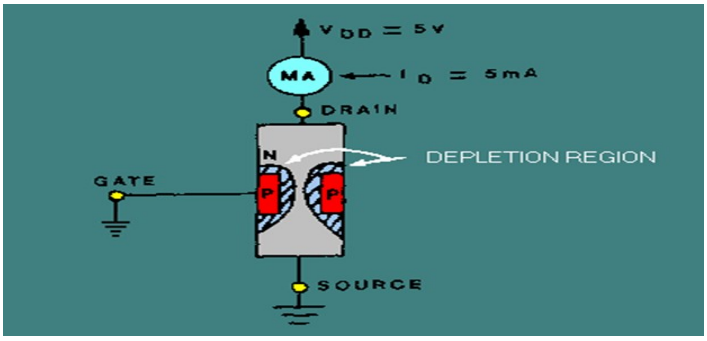


Figure 3-47. - JFET operation with zero gate bias.

In figure 3-48, a small reverse-bias voltage is applied to the gate of the JFET. A gate-source voltage (V_{GG}) of negative 1 volt applied to the P-type gate material causes the junction between the P- and N-type material to become reverse biased. Just as it did in the varactor diode, a reverse-bias condition causes a "depletion region" to form around the PN junction of the JFET. Because this region has a reduced number of current carriers, the effect of reverse biasing is to reduce the effective cross-sectional area of the "channel." This reduction in area increases the source-to-drain resistance of the device and decreases current flow.

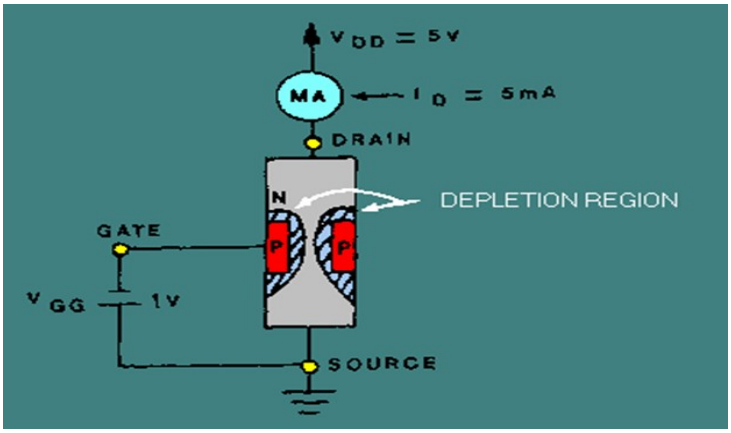


Figure 3-48. - JFET with reverse bias

The application of a large enough negative voltage to the gate will cause the depletion region to become so large that conduction of current through the bar stops altogether. The voltage required to reduce drain current (I_D) to zero is called "pinch-off" voltage and is comparable to "cut-off" voltage in a vacuum tube. In figure 3-48, the negative 1 volt applied, although not large enough to completely stop conduction, has caused the drain current to decrease markedly (from 10 milliamperes under zero gate bias conditions to 5 milliamperes). Calculation shows that the 1-volt gate bias has also increased the resistance of the JFET (from 500 ohms to 1 kilohm). In other words, a 1-volt change in gate voltage has doubled the resistance of the device and cut current flow in half.

These measurements, however, show only that a JFET operates in a manner similar to a bipolar transistor, even though the two are constructed differently. As stated before, the main advantage of an FET is that its input impedance is significantly higher than that of a bipolar transistor. The higher input impedance of the JFET under reverse gate bias conditions can be seen by connecting a microampmeter in series with the gate-source voltage (V_{GG}), as shown in figure 3-49.

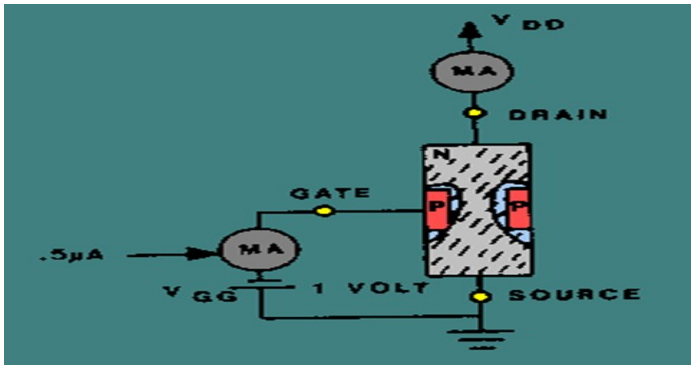
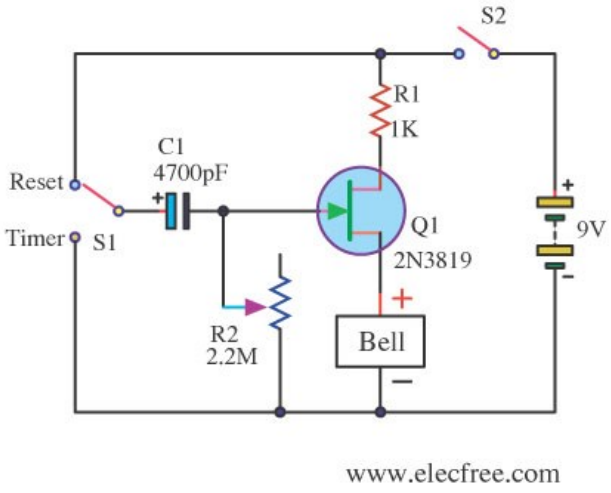
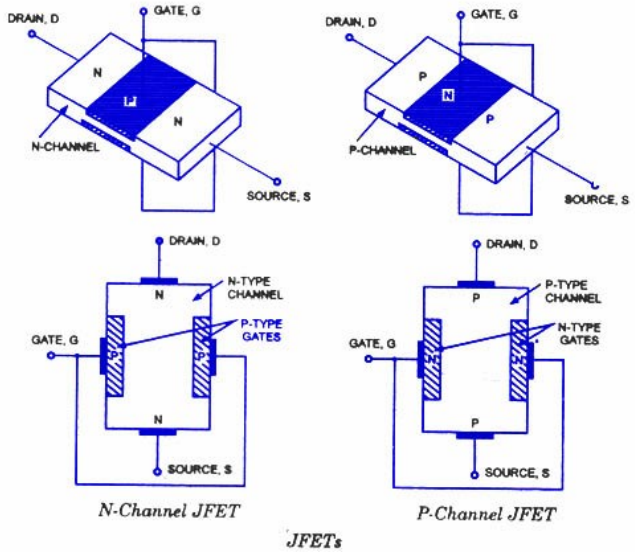


Figure 3-49. - JFET input impedance.

With a V_{GG} of 1 volt, the microampmeter reads .5 microamps. Applying Ohm's law (1V ☐ .5☐A) illustrates that this very small amount of current flow results in a very high input impedance (about 2 megohm). By contrast, a bipolar transistor in similar circumstances would require higher current flow (e.g., .1 to -1 mA), resulting in a much lower input impedance (about 1000 ohms or less). The higher input impedance of the JFET is possible because of the way reverse-bias gate voltage affects the cross-sectional area of the channel.

The preceding example of JFET operation uses an N-channel JFET. However, a P-channel JFET operates on identical principles. The differences between the two types are shown in figure 3-50.





COMPANY C

A few days before Christmas, 1969, I relinquished my command of Company A -- I was no longer Darkness Alpha 6. I felt that I had done a good job and was satisfied. My company had achieved the highest total body count in the battalion and had suffered the fewest casualties. I like to think that my leadership had something to do with it. I was made an "Assistant Executive Officer, Counter Insurgency." I'm not sure exactly what that meant but I was a REMF once more. The battalion XO was a nice guy and I look forward to an enjoyable month prior to DROSing (Date of Return from Over-Seas).

A day or so after I took over my new job the Charlie company commander was evacuated with malaria. I still had a severe cold that I had contracted on R&R in Taipei and was generally feeling rotten. The battalion commander asked me if I felt well enough to assume temporary command of C Company. I heard myself saying "Yes Sir." I really felt like shit but the mission came first.

Before leaving I went to see the battalion surgeon and asked him for help. He said that he had a special elixir that contained paregoric as well as other mysterious goodies and that it would cure me if it didn't kill me first. Charlie was in the field on daylight ambush patrols. When I arrived I called for the senior platoon leader and told him that I was sick and that he would be in charge while I got better or died. I crawled under a bush and went to sleep. The doc was right. When I woke up that night I felt better.

Soon after I took over Charlie we got word to move up Thunder Road to north of Lai Kae. This was new terrain to the battalion and to the Second Brigade for that matter. There were three fire support bases along Highway 13, north of Lai Khe, Thunder I, II and III. Thunder II was the largest and in the middle so I established my company headquarters there. It would be a new type of duty for me and my company. We would provide base security and security for the daily road clearing operations between the bases. It was really pretty good duty and we were far from the rice paddies of Thu Duc. The countryside was sparsely vegetated and was extremely dry that time of the year.

The Thunder bases were fairly large, especially Thunder II. They were all in the process of being phased out or turned over to the ARVNS. There was a support battalion commander on Thunder II who was the nominal base commander. That was fine with me because there were a lot of ash and trash units on what had been a brigade- sized base camp. We were the only combat units. I reported in to the LTC and asked him if he wanted me to take responsibility for base defense. He was glad to let me as he had to worry about his support mission.

I became immediately unpopular with the tenant units on Thunder II when it became obvious that there were not enough infantry to cover the perimeter. I assigned the most likely avenue of approach to one of my platoons and kept a platoon available as a ready reaction force (RRF) for both Thunder II and the other two bases. The remainder of the perimeter was doled out to the support units on the base. That was rough for them because they still had to perform their support missions. War is hell.

Only a fraction of its former population remained on the base but the size was the same. I felt distinctly uncomfortable with our ability to defend in and told my battalion commander. He told me to use my initiative (Will they ever learn?). I contacted an engineer unit and had them do some major surgery on the base resulting in a smaller perimeter and a more defensible base. It's usually easier to get forgiveness than get permission. I probably wiped out several million dollar's worth of fortifications. I'm glad that I didn't have to pay for it.

I couldn't believe how many Vietnamese nationals were on the base. It seemed like every one of the support soldiers had his private maid. The situation had changed since the base shrunk and I felt that the Viet's were a security hazard. Some of the people had passes signed by people who were long gone. I got the attention of the tenant units by closing the post to all Vietnamese civilians. I was soon besieged by irate company commanders and first sergeants. I limited each unit to a certain number of civilians and instituted a system of monthly verification of the passes. My men got a kick out of the whole thing. We eventually reached equilibrium with a reasonable amount of civilians on the base.

One of the positions I was required to man was a sentry post on the edge of Thunder II along Route 13. I'm not sure what the sentry was supposed to do but it was mandated by higher. The first day one of my men stood in the sun, he decided to make a shelter for his comfort. I had no problem with that and lord knew we had plenty of building material. My only directions were to make it look fairly decent so some passing VIP's sense of aesthetics wouldn't be offended. A crowd of curious children gathered to watch the guard and his buddies build his shelter.

Some of the bolder kids grabbed some of the timber and dragged it to the other side of the road. They pointed to the side that the guys were building on and said "Numbah 10" and then pointed to the other side of the road and said "Numbah 1." My men were not going to listen to any children especially children who were probably commies to boot. They finished the shelter as planed and gathered around to admire their work. A few minutes later, the first convoy went by. It was huge and took almost an hour to pass. Just before the convoy arrived, the kids went to the other side of the road to watch. The guard disappeared in a swirling cloud of dust. When it had passed the guard sheepishly moved the shelter to the other side of the road with the help of the children. Out of the mouths of babes....

I established my command post in a bunker that had previously been occupied by an engineer unit. It was a wise move on my part because engineers don't stint when it comes to their oun safety. It was a huge bunker with 12x12 beams in the roof. We probably could have survived a nuclear blast. It was so impressive that I actually was embarrassed when I entertained visitors. My new First Sergeant was an impressive figure of a man. He was black, well muscled and over six feet tall. He looked like SGT Rock and I was glad to have him. I soon learned that appearances could be deceiving.

One day I heard commotion topside and went up to investigate. A swarm of bees had affixed itself to the ladder leading to our observation tower, trapping the sentries. Somebody said to pop some smoke grenades to scare them off. Pretty soon all sorts of smoke was going off. The First Sergeant seemed to be on top of the situation and I soon lost interest and went back into my bunker where it was cool. A few minutes later I heard a muffled pop that sounded familiar. I heard some yelling and some medics brought the First Sergeant into the bunker.

Unlike a smoke grenade which has an instantaneous fuse, a WP grenade has a delayed fuse like a fragmentation grenade. When the WP didn't pop like a normal smoke grenade, Top kicked it and it exploded in his face. An infantryman would not have made that mistake in the dark much less in broad daylight. It turned out that my First Shirt had a finance Corps background!
He was pale and in obvious pain. Parts of his skin were smoking, including his genital area. I called in a dust off and he was soon gone.
What had happened is that Top had thrown a grenade marked "SMOKE WP." A normal smoke grenade is about the size of and is shaped like a beer can. A white phosphorus or WP grenade is shaped different and is heavier. It looks nothing like a common smoke grenade and it is next to impossible to mistake one for the other. The WP called Willy Peter by the troops is a very special smoke grenade and is only used when necessary. It has a bursting radius of twenty five meters and showers that area with burning white phosphorus and produces an extremely thick cloud of billowing white smoke. Nothing puts it out. It will burn right through a person unless it is pried out with a stick or falls out from gravity. In short it is quite nasty.

I was to spend Christmas at Thunder II. My last Christmas had also been in Viet Nam and the one before that away from home in Colorado Springs. Christmas Eve I went to inspect the perimeter with the Lieutenant Colonel in nominal command of the base. It was a nice night and I enjoyed making the rounds wishing the men a merry Christmas. All of a sudden the sky to the south was filled with flares. It looked like somebody was celebrating. The Colonel and I agreed that the display was evidence of poor discipline and a lack of professionalism.

Just then I heard a helicopter and learned the reason for the light show. The Commanding General of the First Infantry Division had taped a holiday message to the troops and was having it played all over the division AO. As soon as I heard it, I cringed because I knew what was going to happen. Woosh! The first flare rocketed skyward and was soon followed by scores more. The men were not impressed with what they heard and let the world know it. I was embarrassed and the Colonel was good-mannered enough to pretend like he didn't notice.

There is and old army story designed to impress upon a new leader the role of the non-commissioned officer. It goes something like this: The OCS lieutenant was asked in a leadership class how he would move a flag pole from point "A" to point "B" if he had an NCO with a squad of men, 200 feet of rope and three 4x4x8's. The young LT came up with some elaborate solution in which he used all of the assets given. He was told that he was incorrect and that the proper solution was to say "Sergeant, move the flag pole. Let me know if you need any help," and then to leave so he could get the job done.
One day the post commander called me to his CP. He pointed out the flag pole in front of it and told me that he wanted it moved. I said "yes, sir, I'll get it done." I couldn't believe my opportunity to test the old story. I selected a sergeant and told him to see that it was moved. About an hour later I checked it out. Sure enough it had been moved. It was a little crooked but it was in the right place. I guess they knew what they were doing at Ft Benning.

One of the main duties of my company was to clear the roads between the Thunder bases every morning. This was vital for the resupply of An Loc and other places up north. At nights Charlie loved to mine the road and we had to find them. A sweep team consisted of two engineers with mine detectors walking in front of one of our jeeps which held a small security detail. More troops followed not to far behind in a five ton dump truck full of dirt. The dirt was to fill in any holes that were blown in te road. A hole in the road did not necessarily mean friendly casualties because it was the safest procedure to detonate a mine in place rather than try to disarm it.
The duty was not really too bad but it was hard on the nerves. One day I went along with a sweep team. I tried to accompany all of my units every so often. It was a beautiful morning and I was enjoying myself. All of a sudden two men popped up by the side of the road with their arms in the air. Luckily they were trying to surrender. We would have been SOL if they had jumped up with AK's blazing. It is difficult to protect against a determined adversary who is not afraid to die. I still have the hammock that one of the prisoners was kind enough to give me.

RECON PLATOON

One day after a few months in Delta Company the battalion commander sent word that he wanted to see me he told me that I had been doing a good job and that he had another job for me. He said that I had my choice of three jobs. I could be a company executive officer, the S-3 air or the Recon platoon leader.
The simplest and safest job would have been that of company XO. I would have been in charge of the company rear and worked under the general supervision of the battalion XO. My main job would have been to support the troops in the field. S-3 air was a choice job. I would have been the staff officer responsible for air movement and air support. I could have gotten in a lot of chopper time. It was a good career choice and probably the one to take.
The most potentially dangerous job was that of Recon Platoon Leader. OUR Recon Platoon was engaged in combatting the Viet Cong infrastructure in our area. It spent most of its time in villages trying to ferret out the bad guys. It was considered a glamour job so I took it, of course. The Battalion Commander said that he was glad that I had chosen that job and that it would be the most challenging.
He told me that Recon was a rowdy group that needed to be cleaned up. (I just recently [8/96] talked to my predecessor. During his tenure Recon was used as a "fire brigade" or ready reaction force. The change to a less combat intensive mission probably called for a different leadership style). I wondered if I had done the right thing. When I joined Recon, it was occupying a perimeter sector at the Thu Duc water plant. The plant was a $20 million facility just off the main road between Long Binh and Saigon. The platoon area consisted of a GP small for the platoon leader and platoon HQ and several bunkers on the perimeter for the men.
The platoon itself consisted of about thirty US troops, a half dozen Vietnamese National Policemen (Camh Sat) and a few Kit Carson scouts or "KC"'s. KC's were former Viet Cong who had turned their coats and were supposedly working for us -- supposedly. The platoon rarely walked anywhere but rather ran the roads of the AO in jeeps. The jeeps were loaded down with a M-60 machine gun on a pedestal mount, sand bags on the floor for mines and what we called the toy boxes which were mortar ammunition boxes full of explosives such as Bangalore torpedo's and claymore mines and C4.

A piece of angle iron was welded to the front bumper. It was higher than a sitting man and the last six inches were notched and angled forward. It was designed to cut wire that might be stretched across the road and designed to decapitate someone driving in a jeep with its windshield down. I never heard of that happening but it probably did happen at least once.
The colonel was right about the platoon. It was a rowdy crew that looked like they had rarely seen a barber. I had my work cut out for me. There is an old saying the it easier to loosen up than to tighten up. Whoever said that must have had a recon platoon.
My first night there I went to check the platoon area. I only found a few sentries and asked the platoon sergeant where the hell everyone was. He told me that they had all gone to a whore house called Bebop's. I couldn't believe my ears. First of all we were not supposed to leave the wire after dark for safety reasons. Even more important than that, the platoon was the battalion's emergency reaction force. We were supposed to be able to conduct offensive operations on a moment's notice. Christ, the men probably couldn't pull up their pants on a moment's notice.

The next day I read the riot act to the platoon. I put Bebop's off limits until further notice. I told the men they would have to begin soldiering, including looking like soldier's. I told them that anybody that didn't like it could transfer to a line company. At first I thought that the whole platoon would transfer, but they didn't. Perhaps they thought they could always transfer later or perhaps they didn't want to bear the stigma of not being able to cut it in Recon. It was a near thing but things got better rapidly.

For several weeks we worked on the basics. We practiced ambushes and tactical operations in general. The men began to act like soldiers and they even began to look like soldiers. They were proud of the fact that we wore camouflage jungle fatigues and bush hats instead of the normal jungle fatigues and steel pots. We began to look pretty good. Sure they still wore their peace medallions and love beads but on the whole they looked more like soldiers than pirates. Haircuts ranged from good to marginal but were greatly improved. They were definitely children of the 60's. One of the jeeps sported the name "the Grateful Dead" I wonder if its driver is a middle aged "Deadhead" today. The battalion commander complimented me on the platoon's appearance. All they had to do was to play the game. I just had to remind them of the rules.

The platoon sergeant said that we should reward the men with a little time at Bebop's. I said that I agreed but that we would have to control who went and make sure they could return on a moment's notice. We soon had a field telephone "hot line" to Bebop's. I let the NCO's decide who could go each night. I said I wanted it on a rotational basis but that it was a privilege they had to earn. The heck with fines and company punishment, I had the ultimate weapon. Each night we had six to ten men on our own version of R & R. The men seemed happy and Recon could even react to an emergency with most of the men sober.

I hit it off real well with Madame Be Ba or Bebop to the troops. Since I represented a good piece (no pun) of her business, she was very nice to me. She invited me into her living room to have cool drink.

I had many good evenings at her house. It was like a home away from home for me. I met several interesting people at her dinner table. Many of them were probable VC but what the hell. One night we had just finished a nice crab dinner and were sitting around drinking wine and chatting when all of a sudden, the doors and windows burst open.

Camouflaged men with guns filled the room. I about had a heart attack. I thought that a hit squad was about to get me. In a second I recognized some of my troops. Where was my driver, the leader asked? It seemed that he was supposed to go on an ambush patrol that night but that he volunteered to drive me instead. They brought his gear and a replacement driver. The left a minute later with a none to happy trooper with them.

Madame Bebop was an interesting lady. She said that she had been one of Madame Nhu's entourage when Madame Nhu went to the United Nations. Bebop was very proud of her wardrobe and never tired of showing me her new dresses. She was a nice lady. I decided that I had to be a straight arrow as far as she was concerned to maintain my credibility with her and with my men.

Among other things Bebop was quite a hypochondriac. She was always telling me of her ailments. One day she asked me if I could get the battalion surgeon to examine her. I thought that was a good idea. The next day I approached the Doc. I didn't really know him as he was new in country. Of course he was a Captain but that didn't mean much to a doctor. He gave me all he reasons why he shouldn't do it and I countered every one. I told him to let his people know that he was playing poker in the recon area. If an emergency happened, we could reach him on the hot line and get him back through the wire in five minutes. He finally agreed but only on the condition that I get him back early.

About two o'clock the next morning I was saying, "Doc, we have to get back to the water plant .... Please let's go!!! It was even harder getting him to leave than it was to get him to go in the first place.

Bebop's was a real morale factor for the men. Once they restructured their thinking to consider it a privilege to be earned, I had it made. At least I thought so. One day one of the troops asked me if he could volunteer for guard duty on post number two. I was mildly curious as the troop in question was hardly the type to volunteer, in fact, it had been quite some time since he had been allowed to make the run to Bebop's. I told him that I didn't care but that he had to clear it with the platoon Sergeant.

The water plant was a pretty cushy billet, especially for the recon platoon. We went on VCI operations during the day and had to man a small AP each night. The ambush wasn't a big deal and, since it only involved a few men and the AO wasn't too hot. Also since our main mission at night was the battalion Ready Reaction Force (RRF), I rarely went on ambush. I would go once in a while to observe the men and to maintain credibility but it was more important to ride herd on my rowdies.

The best thing about the water plant is that we had unlimited hot water and a beautiful chrome, tile and steel shower facility. It made the luxury of Dian seem crude and the shower buckets of FT Apache barbaric in comparison. One of the more unpleasant sides of duty at the water plant were the rats. The damn things were all over the place, especially in our bunkers. I got tired of having them scurry over me at night and decided to do something about it.

I got hold of a trap. It was one of the "humane" types that locked the prey in a cage without hurting them. Every night I would set my trap and bait it with anything handy. The next morning I would have a rat to dispose of. Being very careful not to harm one of natures creatures, I would take the trap to the water settling tank and drown the little bastard. This went along pretty well until I ran into THE RAT. We're talking big!!! The first time I suspected he existed was when my trap was tripped and the bait gone but no rat. After this happened a few times I figured that whatever was taking the bait must be so big that the door couldn't close with its head in the trap. Brother Rat may be big, but he was no match for a Ranger Trained infantry officer. I decided to use some of the booby trap tricks I had learned to solve the problem.

I got some claymore wire, a radio battery and an electric blasting cap. The blasting cap was used as a primer to ignite a man explosive charge. It was a metal tube about one quarter inch in diameter and three inches long. It was closed on one end and had wire leading from the other end which was sealed with a wax- like substance for water proofing. The explosion was powerful enough to be dangerous. It could easily blow off a few fingers on a careless GI.

I set the rap so that if the door moved one half inch, two wires would touch making an electrical circuit. I stuck the blasting cap into a chunk of Slim Jim sausage and put it in the bait holder. After setting the trap, I armed it by attaching the battery. That night I went to sleep, forgetting about the trap. The explosion scared the hell out of me, I thought that we were under attack. A blasting cap isn't that loud, but in a bunker, it sounded like a bomb going off. It sure as hell worked. The headless rat that I found by the cage was as big as a cat. I showed off my trophy the net morning.

My KC's were impressed and asked me if they could have it for dinner. Some of my fondest memories of Viet Nam came from my time with the Recon Platoon. Our typical operation was to cruise the roads and visit villages in our AO. On Sundays we would set up road blocks so that our Camh Sat could check ID's. It was good duty. We enjoyed looking at the girls and finding the occasional weapon provided some excitement. We would usually do that on Sundays because that wasn't a good time to visit village chiefs in the looking for information about the Viet Cong.

The most exciting operations we pulled were "snatch jobs" They were midnight kidnappings of supposed Viet Cong. I sometimes wondered whether we were helping some Vietnamese eliminate a rival.

Another operation that could be exciting was a village search. We would usually do those with a Vietnamese unit. One time we were fanned out searching when all of a sudden the ARVIN's began shooting into the ground and hollering. They had found a possible air hole for a tunnel. We pushed smoke grenades into the hole and looked for other places where the smoke came out. It was kind of scary waiting for a Viet Cong to jump out of a hole. We pulled one dead guy out of a hole. He was dyed violet from the smoke grenade but seemed otherwise uninjured. We finally noticed that he had a tooth missing. Evidently one bullet had knocked out the tooth and buried itself in his body without exiting.

Another time I was poking around some loose ground and leaves near a hooch. When the ground began to move, I jumped about three feet in the air. There was a boa constrictor or python in the pile. The KC's immediately grabbed the snake and wired its mouth shut with trip wire. They put him into a sand bag and carried him along until dinner. Fresh meat. It kind of tasted like chicken.

Lieutenant KY was one of the more unsavory characters that I met in Vietnam. He was the head of the Thu Duc District Intelligence Operating Center or DIOC ("Dee-ock"). His job was to interrogate prisoners and develop intelligence. I made a courtesy visit to his headquarters soon after joining Recon. He proudly showed me his interrogation (read torture) chamber. It had manacles and chains on the walls. Prominently displayed was a hand cranked electrical generator with clip-on connectors. He invited me to observe an interrogation but I passed.

As mush as I disliked him, I had to operate with him o occasion. One time I observed the "water treatment". They grabbed a suspect and pull his tee shirt over his head. They then got buckets of water from the pond that served as a latrine for the village. They kept pouring water over the guy's face, just barely avoiding drowning him, until he said what they wanted to hear.

Another time he squatted next to a smiling suspect. Vietnamese smile as a gesture of submission or helplessness. Ky was also smiling but for different reasons. He has a small hardwood stick about a half inch in diameter and two feet long in his hand. As he asked a question he began tapping the suspect on his shin. He didn't tap hard, just incessantly. When he got an answer he didn't like, he would give a sharper tap and the suspect would scream. The really bad thing was that KY enjoyed his work.

I soon learned that when Ky began to do his "thing" to take my men out of the area. After my first experience, I reported Ky to the US Army Senior Province Advisor. He told me that I was pissing into the wind, that Ky's actions were condoned by his superiors and that it was much more likely that I would be replaced than Ky. I have never been one to tilt with windmills so I told my superiors about Ky and tried to avoid the problem. I'm not too proud of that.

Every once in a while we would get some butter from the mess hall in the morning and take it along. We would stop at a bakery and buy loaves of French bread right out of the oven. It doesn't get much better than that. Other times we would get red cans of Japanese mackerel and spread it over the bread.

Early Radio: Military Communications

It was pretty good with a liberal sprinkling of hot sauce. Those same red cans were the type that we saw time and again made into booby traps by the Viet Cong.
We made quite a sight with our camouflage fatigues, bush hats and seven to nine gun jeeps. We were hot s**t and knew it. We would zoom around paying little attention too the speed limit. The MP's that patrolled the main roads caused us more trouble than the Viet Cong. We has a drill set up that never ceased to entertain us. When we were stopped by MP's I would announce very mechanically and as cold bloodedly as I could muster, "My name is 1LT Heller, I am the Reconnaissance Platoon leader of the 2nd battalion, eighteenth infantry, First Infantry Division.

I am on an operational mission. If you have a problem contact my battalion commander. Now get the hell out of my way!!" About that time some of the machine gunners would make menacing gestures with their guns. It never failed. The MP's would salute and wish us luck on our mission and we would zoom off. I never really got in trouble but the battalion commander made a comment at a staff meeting that the Recon Platoon should stop harassing the MP's. He was smiling when he said it.

One unusual thing about the job of recon platoon leader is that I worked for the S-3, a major and for the Combat Support Company (CSC) commander. The CSC commander was my nominal superior, but since he didn't rate me and since I out-ranked him anyway, I would ignore him when I felt like it. MAJ Spurlock, the S-3 was a good soldier and a good man to work for. He never told me how to do something just to do it. Frequently he would get some hot intel from the intelligence officer (S-2) and give me an emergency reaction mission. It was fun and exciting. MAJ Spurlock was riding in a chopper with the battalion commander one day, using the rotor wash to part the nipa palms and elephant grass, looking for a Viet Cong. The guy popped up and shot the helicopter down with his AK 47. The battalion commander wasn't badly hurt but MAJ Spurlock wasn't so lucky. We missed him.

We never got into any big contacts but we got more kills than most of the line companies. I had a good stock of "attaboys" with the battalion commander. One night I used most of them up. I had a five man ambush out. The normal procedure was for the battalion Net Control Station (NCS) would contact all ambushes each hour for a situation report SITREP. The radio contact would go like this, "Darkness 26 this is Darkness 52, if SITREP is negative, break squelch twice."

The resulting rushing sound on the radio would let NCS know that the AP was awake and that nothing was happening. One night I was called into the battalion TOC. The S-3 told me that my AP had missed its SITREP and that it continued not to answer repeated calls. The three said that we would crank up the Quarter Cav and investigate.

The Quarter Cav was a platoon from the 1st Squadron Fourth Cavalry, the divisions cav squadron. The platoon consisted of four ACAV's or armored cavalry vehicles. They were M113 armored personnel carriers, modified with extra armor an guns.

If there is anything a cav trooper hates more than operating in a wooded area, it's moving after dark. The cav definitely wasn't happy with me and mine. I left the platoon sergeant in charge and went with the cav.

We moved along a road to within 100 meters of where the ambush was supposed to be and halted. Now, it's kind of hard to sneak up on anyone in an ACAV but we managed. The AP still didn't answer our radio calls. Finally, I started yelling at them and the ACAV's honked their horns. I dreaded the idea of going any closer on foot. After a few minutes of that, the AP called the NCS and reported a lot of noise to the east. No shit!!!. I called them and they asked what the problem was. When we linked up the said that they were having radio problems and couldn't make the SITREP's. Bull s**t, they were asleep and everyone knew it. We all mounted up and went back to the water plant.

I thanked the cav platoon leader who acknowledged with a grunt and headed to the TOC. I figured that I might as well get it over with and take my ass chewing. The Three was still in the TOC and I reported in to him. I told him that I would take care of the problem and that it wouldn't happen again. I asked him if the Commander wanted to see me. He said that he didn't. Was I relieved. The battalion commander was one of the finest soldiers I had ever worked for or with. The worst think he could say to you was that he was disappointed in you. He was the kind of guy that you would cut off your arm rather than let him down. He reserved his ass chewing for those individuals who were too stupid to know that they had screwed up. I definitely knew that I had screwed up. I never heard anything about it.

My first duty assignment in the army had been in a mechanized infantry unit. In a mech unit maintenance was of paramount importance. It was the thing that could get a commander relieved quicker than anything else. When I took over Recon, I enquired about our maintenance program. I didn't see much maintenance going on but the jeeps always seemed to run. When there was a problem with a jeep, the platoon sergeant would ask permission to go to Saigon and before you knew it, the problem was solved.

It soon became obvious that the platoon regarded Saigon as a big motor pool and parts supply store. Our jeeps never seemed to get old. Dents would vanish overnight and bad engines would heal themselves. I told the men that if they didn't keep the vehicles running that we would be conduct operations afoot. Talk about power. One day they carried things too far. They came back from Saigon with a white jeep. Needless to say, it didn't blend in too well with our vehicles and those of the rest of the army. It made it damn hard for me to pretend that I didn't know what was going on. My platoon sergeant was quite a character. He seemed to be competent enough but you weren't sure. One day as we left the water plant, just where the road swerved to the left, he fell out of his jeep. Luckily he wasn't injured. The men seemed to like him and he did what I said. We never got into a major firefight so I didn't know how he would react under fire. I was to see him again.

Early Radio: Military Communications

One of my chronic underachievers was a young man named Demelli. Ironically, Demelli had been my nemesis when I was at First Admin. He was always getting into minor scrapes. It was hard not to like the guy he was good natured, always smiling and never got into bad trouble. Finally, I asked Demelli what I should do about him. He said that his alternate MOS was Infantryman and that I should send him to a line unit. That seemed like a good solution. If I had known that he would continue to plague me a few months later, I would have seen that he went to a different brigade if not a different war.

Another interesting guy was the battalion S-2. He was nice enough but he had a minor character flaw. He may not have been a coward but he sure as hell avoided leaving the confines of the TOC area, perhaps the best guarded part of the battalion. As he got shorter and shorter he was leerier and leerier of exposing his body to danger. One day I decided to play a trick on him.

I arranged a mock ambush that I would take him into. It took a hell of a lot of persuasion but I finally got him to accompany me on a mission. He had his steel pot and a flack jacket on and he looked worried. Just before we got to a prearranged location, the Platoon Sergeant set off a quarter pound block of C4 explosive. My driver pulled over to the side of the road and we jumped into a ditch. We started shooting into the air and every time the S-2 looked up, I would push his head down. After a brief "firefight" we routed the enemy and returned to the TOC. The S-2 was shaking. Everyone in the TOC was in on the joke. He probably put himself in for a Bronze Star with "V" device for valor.

Twenty-two months after being commissioned, I was promoted to Captain. We had a little ceremony by the TOC and the battalion commander pinned me. I tell everyone that they sent it out with the ration truck. I was going to go on an R&R before taking a new assignment, but before that I was going to throw a promotion party. I wanted to do something different. I had no desire to have a party with the REMF's at battalion rear so I decided to have a party in a local village and invite the local village chiefs as well as the recon platoon.

I got a jeep trailer and filled it with ice and beer. I added a few bottles of whiskey ad headed to Long Tan My, my favorite village. I also invited Captain Blue and a few other officers. The party was a great success and lasted until well after dark. At one time a little boy brought me a .45 pistol and told me that my Platoon sergeant had dropped it. I found him dead drunk and had him poured into a jeep. I got the village officials drunk as hell by drinking toasts with the whiskey that I had brought for that purpose. I faked drinking the toasts and soon drank my friends under the table. It was getting late and we really shouldn't have been out after dark. I wasn't too worried about Viet Cong since we were probably drinking with the local village party secretary but it was time to go home. I had some men carry the village chief to his house where we dumped him on his porch.

The next day when I drove through the villages almost everyone smiled and waved at me. I had gained a lot of face by drinking the Viet's under the table. I later learned that the chiefs thought that I couldn't drink because I usually only drank a beer or two each time I had visited in the past. So much for duty and temperance. I probably would have gotten much more information had I gotten drunk more often.

ARRL Electronic QSL Policy (June 2010 Revision)

Discussions regarding the QSL services offered by several electronic QSLing services suggests that there is some confusion about ARRL QSL policy. Simply put, there has been no change in League policy regarding e-QSLs. ARRL does not accept QSLs (for any award, including DXCC, WAS, VUCC and WAC) that have been transmitted to the recipient via electronic means for its awards. Anyone acting as an authorized QSL manager, however, may receive logs via e-mail (or any other direct means) and send QSL cards, via post mail, to recipients. This is the traditional QSL manager process. As has always been the case, certain norms are expected when handling cards in this manner.

First, we expect that a QSL manager will seek permission from operators for whom QSLs are handled. We do not accept cards from unauthorized QSL managers for award credit.

Second, since most operators requesting QSLs expect that the returned cards will correctly reflect the actual QSO data, we expect that a QSL manager will do the checking required to assure that only real contacts are verified. We all know that raw logs contain many errors. Often, these errors are only detected when incoming cards are compared to the log. The distribution of QSLs, without any checking of the information contained on the incoming cards is poor QSLing practice, and may lead to blanket rejection of all QSL cards from the station/manager in question.

Also, we expect to be able to identify cards as authentic. Many cards are printed on home printers, and, in many cases, the data is printed on card stock at the same time. Although this is technically acceptable, the process often makes verification difficult. In certain cases we may reject these cards. Cards should be personalized or otherwise made unique through the use of a stamp or other personal mark (signature or initials) across a label boundary.

Finally, the concept of obtaining a QSL card at no charge is a long-held tradition in ham radio and DXCC, and we endeavor to continue this tradition. QSL managers handling cards for DXCC submission must make cards available if adequate postage is supplied.

ARRL Policies

Postage can be supplied by sending International Reply Coupons (IRCs), direct funds, or SASEs. *As noted in DXCC rule 12(d) - Complaints relating to monetary issues involved in QSLing will generally not be considered.*

For its awards, the ARRL does not accept electronically transmitted QSLs that are printed by the recipient. There is no restriction placed on how log information is conveyed to an authorized QSL manager, however. Cards provided by QSL managers who make a reasonable effort to comply with the guidelines presented here will be gladly accepted for DXCC credit.

The only, current, exception to this policy is ARRL's LogBook of The World System. ARRL has gone to great lengths to provide a system of electronic verification of individuals, even before they are able to upload logs and/or claim credit towards awards, through the use of Trusted QSL software and VeriSign Inc electronic certificate authentication. For more information on LoTW, visit: http://www.arrl.org/logbook-of-the-world

Name of Net, Frequency, Local Time	Net Manager
Badger Weather Net (BWN) 3984 kHz, 0500	W9IXG
Badger Emergency Net (BEN) 3985 kHz, 1200	NX9K
Wisconsin Side Band Net (WSBN) 3985 or 3982.5 kHz, 1700	KB9KEG
Wisconsin Novice Net (WNN) 3555 kHz, 1800	KB9ROB
Wisconsin Slow Speed Net (WSSN) 3555 kHz, Sn, T, Th, F, 1830	N1KSN
Wisconsin Intrastate Net - Early (WIN-E) 3555 kHz, 1900	WB9ICH
Wisconsin Intrastate Net - Late (WIN-L) 3555 kHz, 2200	W9RTP
ARES/RACES Net 3967.0 kHz, 0800 Sunday	WB9WKO
* Net Control Operator needed. Contact Net Manager for information.	

Next Regular Meeting

The next meeting will be on Thursday, March 27h at 7:00PM. We meet in the Fellowship Hall of Redemption Lutheran Church, 4057 N Mayfair Road. Use the south entrance. Access the MRAC Yahoo group for important details about the February Meeting.

Meeting Schedule:

April 24th, 2014 7 pm

Please do not call the church for information!

Club Nets

Please check in to our nets on Friday evenings.

Our ten meter SSB net is at **8:00 p.m.** at **28.490 MHz USB** Our two meter FM net follows at **9:00 p.m**. on our repeater at **145.390 MHz** with a minus offset and a **PL of 127.3 Hz.**

Visit our website at: **www.w9rh.org**

Or phone (414)-459-9741

Chatter Deadline

The **DEADLINE** for items to be published in the **Chatter** is the **15th of each month**. If you have anything (announcements, stories, articles, photos, projects) for the 'Chatter, please get it to me before then.

You may contact me or Submit articles and materials by e-mail at: **Kc9cmt@earthlink.net**

or by Post to:

Michael B. Harris

807 Nicholson RD

South Milwaukee, WI 53172-1447

VE Testing:

March 29th, 2014
April 26th, 2014
Location: Amateur Electronic Supply Time: 9:30 AM (Walk-ins allowed)
ALL testing takes place at: Amateur Electronic Supply 5720 W. Good Hope Rd. Milwaukee, WI 53223

Area Swapfests

April 5th, 2014 AES Superfest, 5720 Good Hope Rd. Milwaukee WI, 53223

April 12th, 2014 Madison Hamfest Location: Stoughton, WI Sponsor: Madison Area Repeater Association Website: http://www.qsl.net/mara

May 3rd, 2014 ORC Spring Hamfest Location: Cedarburg, WI Sponsor: Ozaukee Radio Club Website: http://www.ozaukeeradioclub.org

MRAC Working Committees

100th Anniversary:

- Dave—KA9WXN
- Dan—N9ASA

Net Committee:

- Open

Field Day

Dave—KA9WXN, Al—KC9IJJ

FM Simplex Contest

- Joe – N9UX
- Jeff – K9VS

Ticket drum and drawing

- Tom – N9UFJ

Newsletter Editor

- Michael-KC9CMT

Webmaster

- Mark Tellier—AB9CD

Refreshments

- Hal—KB9OZN

Membership Information

The Hamateur Chatter is the newsletter of MRAC (Milwaukee Radio Amateurs' Club), a not for profit organization for the advancement of amateur radio and the maintenance of fraternalism and a high standard of conduct. MRAC Membership dues are $17.00 per year and run on a calendar year starting January 1st. MRAC general membership meetings are normally held at 7:00PM the last Thursday of the month except for November when Thanksgiving falls on the last Thursday when the meeting moves forward 1 week to the 3rd Thursday and December, when the Christmas dinner takes the place of a regular meeting. Club Contact Information

Our website address **http://www.w9rh.org**

Telephone **(414)-459-9741**

Address correspondence to:

MRAC, PO Box 26233, Milwaukee, WI 53226-0233

Email may be sent to: **w9rh@arrl.net .** Our YAHOO newsgroup:

http://groups.yahoo.com/group/MRAC-W9RH/

CLUB NETS:

- The Six Meter SSB net is Thursday at 8:00PM on 50.160 MHz USB
- Our Ten Meter SSB net is Friday at 8:00PM on 28.490 MHz ± 5 KHz USB.
- Our Two Meter FM net follows the Ten meter net at 9:00PM on our repeater at 145.390MHz - offset (PL 127.3)

ARRL 100 YEARS

All Hazards NOAA Weather Radio NOAA's National Weather Service

The MRAC HamChatter is a monthly publication of the Milwaukee Radio Amateurs' Club. Serving Amateur Radio in Southeastern Wisconsin & all of Milwaukee County
Club Call sign – W9RH
MRAC Website: http://www.W9RH.org
Editor: Michael B. Harris, Kc9cmt, kc9cmt@Earthlink.net

Milwaukee Area Nets

Mon.8:00 PM 3.994 Tech Net

Mon.8:00 PM 146.865- ARRL Newsline

Mon.8:00 PM 146.445+ Emergency Net

Mon.8:00 PM 146.865- Walworth County ARES net

Mon.8:45 PM 147.165- ARRL Audio News

Mon. 8:00 PM 442.100+ Railroad net, also on EchoLink

Mon. 8:30 PM 442.975+ WARC W9CQ net also on EchoLink 576754

Mon. 8:30 PM 442.150+ Waukesha ARES Net on the 1st, 3rd, and 5th Monday of each month.

Mon. 9:00 PM 147.165– Milwaukee County ARES Net

Tue.9:00 AM 50.160 6. Mtr 2nd Shifter's Net

Tue. 9:00 PM 145.130+ MAARS Hand Shakers Net

Tue. 8:00 PM 7.035 A.F.A.R. (CW)

Wed. 8:00 PM 145.130+MAARS Amateur Radio Newsline

Wed. 8:00 PM 147.045+ West Allis ARC net

Wed. 8:00 PM 147.270+ Racine County ARES net

Wed. 9:00 PM 145.130+MAARS SwapNet, link to FM-38

Thur. 8:00 PM 50.160, 6 Mtr SSB Net

Thur. 9:00 PM 146.910+ Computer Net

Fri. 8:00 PM 28.490 MRAC W9RH 10 Mtr SSB Net

Fri. 9:00 PM 145.390+ W9RH 2 MTR. FM Net

Sat. 8:00 PM 146.910+ YL's Pink HAMsters Net

Sat. 9:00 PM 146.910+ Saturday Night Fun Net

Sun 8:30 AM 3.985 QCWA (Chapter 55) SSB net

Sun 9:00 AM 145.565+ X-Country Simplex Group

Sun 8:00 PM 146.910+ Information Net

Sun 8:00 PM 28.365 10/10 International Net (SSB)

Sun 9:00 PM 146.910+ Swap Net

Daily: Milwaukee — Florida Net 7 am, 14.290 mhz.

Thursday's 8:00 PM 448.300+ Tech Net

2meter repeaters are offset by 600KHz - - 70 centimeter repeaters are offset by 5 MHz